

NOTES ON SAPINDACEAE. I.
NEW SPECIES OF SERJANIA FROM CENTRAL AMERICA AND MEXICO

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The following paper is intended to be the first of several papers concerned with Sapindaceae leading eventually to a revision of the Sapindaceae of Central America. During recent work with the Sapindaceae for the Flora of Panama new taxa were discovered. The need to return a large number of loans necessitates publication of these taxa now.

Serjania macrocarpa Standley & Steyermark var. glabricarpa
var. novo

Frutex scandens; folia biternata; lamina $\pm$ lanceolata-elliptica, 3-9(12) cm longa, 1.5-4.0 cm lata, crenata ad crenata-serrata, sparsim pubescens. Fructus ovatus-cordatus, fere glaber.

Liana; stems 6-costate when young, rufous-tomentose, becoming sharply 3-angled and viscidulous in age with the pubescence dense only in lines; wood composite with a large central bundle surrounded by three small peripheral bundles. Leaves alternate, biternately compound, the petiole 2-5(7) cm long, sharply striate, tomentulose to villous on the angles, the grooves viscidulous, the rachis similar but broadly margined or narrowly winged; leaflets 9, lanceolate-elliptic to narrowly-elliptic or ovate-elliptic, acuminate to acute at apex, attenuate to obtuse at base, 3-9(12) cm long, 1.5-4(6.5) cm wide, crenate to crenate-serrate, the teeth thickened and glandular; upper surface glabrous to strigulose on the surface, more densely so on veins especially the midrib; lower surface moderately pubescent throughout with whitish, curved, short trichomes; major lateral veins 7-12 pairs, arcuate-ascending, joining the glandular teeth; reticulate venation obscure above, prominulous beneath. Inflorescence of paniculate thyrses, terminal or upper axillary. Flowers white; sepals ovate to oblong-ovate, tomentose, to 3.5 mm long; petals obovate, glabrous, to 4 mm long, the anterior scales oblong, to 3.5 mm long, glabrous except for the densely villous margins, the crown emarginate-bifid, to 1 mm long, orange, glabrous, the deflexed appendage no longer than the crown, densely villous; lateral scales slightly shorter and narrower than anterior scales; stamens unequal, filaments villous, bisexual flowers with the shortest filaments, ca. 1.8 mm long, the longest ca. 3.5 mm long; anthers oblong-elliptic, ca. 0.5 mm long; pistil < 1 mm long; ovary ovoid, glabrous; styles 3, glabrous, as long as the ovary; pistillate flowers with stamens shorter, 2-3 mm long, the ovary obovoid, glabrous except hirtellous to

tomentulose on the angles. Fruit ovate (often reddish when immature), the wing emarginate at the apex, equalling or exceeding the seminiferous area, cordate at base, 4.0-4.5 cm long, 3.3-3.7 cm wide; the seminiferous area smooth or rugose, glabrous.

Type: Belize: District of Cayo; forest south of San Luis and east of Camp Six, March 19, im. frts, Dwyer, Elias & Maxwell 361 (Holotype MO, 1964274).

The variety glabricarpa is distinguished from the typical variety by its glabrous to sparsely pubescent ovary and essentially glabrous fruits. The typical variety has a densely rufous-tomentose ovary and a fruit which is densely rufous-tomentose especially on the seminiferous area.

The species ranges from Mexico (Veracruz, Tabasco & Oaxaca) south to Honduras. It flowers in the dry season December to February. Fruits mature from March to May.

Additional collections seen: MEXICO: Oaxaca; Distr. of Tuxtepec, Chiltepec & vicinity, alt. ca. 20 m., Calderon 367 (A, US). Tabasco; Atasta, Rovirosa 751 (K). Veracruz; Jalapa, Acatlan, Salazar s.n. (US). Veracruz; Fortuno, Coatzacoalcos River, alt. 30-50 m, Williams 8428 (F, US). BELIZE: Cayo District, without exact locality, Thompson s.n. (coll. 1929) (F). Cayo; El Cayo, Bartlett 11569 (F, MICH, US). Cayo; 9.5 mi S of Georgeville on road to Augustine, Croat 23467 (MO). Belize; Maskall Pine Ridge, Gentle 1161 (A, F, GH, K, MICH, MO, NY, US). Cayo; vic of Round Hole Bank Chiquibul Forest Reserve, elev. ca. 1600 feet, Proctor 30152 (MO). Cayo; 7 mi from Roaring Creek on road to Humming Bird Gap, Wilbur & Weaver 11536 (F). Toledo; without exact locality, Peck 633 (GH). Toledo; along trail to Esperanza beginning 1 mi N. of Colombia Forest Station, Croat 24251 (MO). Toledo; vic of San Jose Mayan Indian village, 6.7 mi N. of Colombia Forest Station, Croat 24449 (MO). Toledo; Rio Grande River, 250 feet elev., Schipp 1104 (A, F, GH, K, MICH, MO, NY, US). Toledo; Wabass Camp, Columbia River, Sampson 18 (K). HONDURAS: Dept. Cortes, Montana de Rio Piedras, alt. 240 m, Molina 3554 (F). Dept. Santa Barbara, San Pedro Sula, alt. 300 m, Thieme 5178 (US).

Serjania lundellii sp. novo

Frutex scandens; corpus lignosum compositum; folia biter-nata; rachis petiolusque nudus; lamina + ovata, fere glabra. Fructus ovatus, circa 2.5 cm longus, 2.0 cm latus, alis fere glabris, semine sene hirsuto-villoso.

Liana; the stems terete to 6-costate when young, weakly viscidulous, sparsely appressed-pubescent; wood composite, a large central bundle surrounded by 3 peripheral bundles, the

peripheral bundles sometimes split into 2. Leaves biternately compound, 3.5-15 cm long; petioles .7-8 cm long, canaliculate, viscidulous, glabrous to inconspicuously appressed-pubescent; rachis similar but with a pubescent medial ridge; leaflets ovate to ovate-elliptic, rounded to acute or rarely acuminate at apex, rounded to attenuate at base, .8-6.5 cm long, .5-3.8 cm wide, subcoriaceous, glabrous above except on prominently raised midrib and some major veins, nearly glabrous below, major lateral veins 3-5 pairs, the lowermost pair ascending to about the middle of the blade; reticulate venation obscure; margins broadly crenate, revolute, the teeth weakly glandular; the terminal leaflet gradually tapered to a long petiolule; the lateral leaflets sessile or short-petiolate. Inflorescence terminal or upper axillary, the thyrses arranged in panicles or racemes. Flowers white; pedicels to 3 mm long, articulate ca. midway, tomentulose; calyx ovate to ovate-elliptic, tomentose, to ca. 3 mm long; petals oblong-obovate to obovate-spatulate, to 3 mm long, glabrous outside, coarsely glandular inside; anterior scales ca. two-thirds as long as petals, villous within, especially along the margin; the crown about as broad as high, emarginate, the deflexed appendage ca. 1.5 times longer than crown, densely villous; glands of anterior scales about as broad as long, glabrous; lateral scales slightly smaller than anterior scales, the crown reduced; stamens slightly unequal, the filaments flattened, glabrous on the face, hirsute on the edges; staminate flowers with stamens 2-4 mm long, filaments weakly flattened toward base, sparsely pubescent, pistil minute; bisexual flowers with stamens 1.4-1.8 mm long, the pistil to 2.5 mm long, the ovary trigonous, densely hirsute, ca. 1.2 mm long, the style + glabrous, equalling the stigmas, stigmas 3, densely papillose. Fruits ovate-cordate, 2-2.7 cm long, 1.8-2.5 cm wide, the sinus shallow, the wing somewhat shiny, glabrous or sparsely pubescent, obcordate at apex and extending well ahead of seminiferous area, the latter densely rufous-hirsute with villous to tomentose pubescence often extending along the medial ridge.

TYPE: Mexico; Campeche, Tuxpena, fls Jan 28, Lundell 1257 (Holotype MO, 1019612; isotypes A, F, GH, MICH, MO, NY, TEX, US).

The species is confused with no other in Central America but most material has passed under the name Serjania scatens Radlk. or S. atrolineata Sauv. & Wright which are synonymous names representing a totally different species. Serjania lundellii is most easily distinguished by its rufous-hirsute fruits and its small, ovate, nearly glabrous leaflets. It flowers in the early dry season December to March. Fruits mature from February to May.

The species ranges from Mexico (Yucatan) to Guatemala and Belize.

Additional collections seen: MEXICO: without exact locality, Purpus 10607 (US). Campeche; Km 5 Carr. Escarcega a Candelaria, Chavelas 235 (F, MICH). Yucatan; Chichan Kanab, coll. 1917, Gaumer 23676 bis (F). BELIZE: Cayo; ca. 40 mi W of Belize, Dwyer, Elias & Maxwell 55 (MO). Cayo; El Cayo, Bartlett 12007 (F, MICH), 12080 (NY), 12908 (F, NY). Cayo; El Cayo and vicinity, Chanek 174 (MICH). Cayo; El Cayo Road, Gentle 2177 (A, F, K, MICH). Cayo; Mai Lookout Station, Dwyer, Elias & Maxwell 221 (F, MEXU, MO). Cayo; vic. of Cuevas, south of Millionario, elev. ca. 900 m, Croat 23563, 23571 (MO). Cayo; Valentin, Lundell 6357 (MICH, NY). GUATEMALA: Alta Verapaz; vic. of caves SW of Languin, alt. 600-1000 m, Steyermark 44077 (A, F, US). Peten; Dos Arroyos, Bartlett 12104 (F, MICH). Peten; Dos Arroyos to Yal'och, Bartlett 12843 (MICH). Peten; Santa Elena, 8 km SE of road to La Libertad, Ortiz 2210 (US). Peten; La Libertad & vic, Aguilar 239 (A, K, MICH, NY). Peten; near La Libertad, Ortiz 615 (F, US). Peten; at Km 25 on road to Pochtun, Ortiz 672 (F, MO, NY). Peten; Santa Cruz, Bartlett 12394 (MICH, MO, NY). Peten; Santa Cruz, Bartlett 12406 (A, F, MICH, US). Peten; vic of archeological camp on N shore of Lake Yaxha, elev. 500 ft., Croat 24664 (MO).